Ajo MUNICIPAL AIRPORT

Appendix B

ENVIRONMENTAL EVALUATION

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ENVIRONMENTAL EVALUATION

Analysis of potential environmental impacts associated with proposed airport development projects is an important component of the Airport Master Plan process. The primary purpose of this chapter is to evaluate the proposed development program for Ajo Municipal Airport to determine whether proposed development actions could individually or collectively affect the quality of the environment.

A major component of this evaluation is to coordinate with appropriate federal, state, and local agencies to identify potential environmental concerns that should be considered prior to the design and construction of new facilities at the Airport. Agency coordination consisted of a letter requesting comments and/or information regarding the proposed Airport development. Issues of concern that were identified as part of this process are presented in the following discussion. The letters received from various agencies are included at the end of this appendix.

Any major improvements planned for Ajo Municipal Airport will require compliance with the National Environmental Policy Act of 1969, as amended (NEPA). Compliance with NEPA is generally satisfied by the preparation of an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). This section of the master plan is intended to supply a review of environmental considerations. The information contained in this document will be analyzed and may support certain determinations by the FAA under NEPA.

PROPOSED DEVELOPMENT

As a result of the Master Plan analysis, a number of airport improvements have been recommended for implementation over the 20-year planning period. The **Airport Layout Plan** (Chapter Five) illustrates the development proposed during this period. The following is a list of the major projects planned for completion. The timing of these projects is described in **Chapter Six.**

Airside:

- Extend the existing runway (Runway 12-30) 1,700 feet to an ultimate runway length of 5,500 feet.
- Construct the associated parallel Taxiway A.
- Reactivate crosswind Runway 5-23, and pave to a length of 3,800 feet by 60 feet in width.
- Construct a full-length parallel taxiway to compliment Runway 5-23.
- Replace existing VASI-2 (Visual glide slope indicator) system installed near each end of Runway 12-30 with PAPI-2s.
- Extend runway lighting on Runway 12-30.
- Install medium intensity runway edge lighting (MIRL), runway threshold lights, and PAPI-2s on Runway 5-23
- Install medium intensity taxiway lighting (MITL) on both new and existing taxiways.
- Install lighted wind indicator/segmented circle.

Landside:

- Construct general aviation terminal facility (300 s.f.).
- Construct auto parking area (8 spaces).
- Pave Ajo Airport Road and related proposed airport access roads.
- Construct one (1) 4-bay T-Hangar unit.
- Expand aircraft parking apron.
- Repair/replace or install aircraft tiedown positions.
- Reserve sites for the following future landside facilities:
  - FBO/conventional hangar parcels
  - Corporate lease hangar parcels
  - Fuel storage facility
  - "Fly-in" recreational area
  - Aircraft wash rack facility

ENVIRONMENTAL CONSEQUENCES - SPECIFIC IMPACTS

The following text briefly examines the airport development actions and their potential to cause significant environmental impact. The following subsections address each of the specific impact categories outlined by *FAA Order 5050.4A*.

NOISE

Aircraft sound emissions are often the most noticeable environmental effect an airport will produce on the surrounding community. If the sound is sufficiently loud or frequent in occurrence, it may interfere with various activities or otherwise be considered objectionable.

To determine noise related impacts that the proposed development could have on the environment surrounding Ajo Municipal Airport, noise exposure contours were analyzed for the years 1998 and 2020. The 1998 contours represent aircraft noise based on the recorded number of aircraft operations obtained from estimates provided by Airport management. The year 2020 contours represent the highest number of forecast aircraft operations of the 20-year planning period.

Noise Contour Development

The basic methodology employed to define aircraft noise levels involves the use of a mathematical model for aircraft noise prediction. The *Yearly Day-Night Average Sound Level (DNL)* is used in this study to assess aircraft noise. DNL is the metric currently accepted by the Federal Aviation Administration (FAA), the Environmental Protection Agency (EPA), and the Department of Housing and Urban Development (HUD) as an appropriate measure of cumulative noise exposure. These three federal agencies have each identified the 65 DNL noise contour as the threshold of incompatibility, meaning levels below 65 DNL are considered compatible with all underlying land uses. Most federally funded airport noise studies use DNL as the primary metric for evaluating noise.

In addition, the 60 DNL noise contour is identified in response to Arizona House Bill 2404 (signed into law, Spring 1999) which added Arizona Revised Statute (ARS) §28-8486 pertaining to all public airports in the State. This statute requires "The state real estate department shall have and make available to the public on request a map showing the exterior boundaries of each territory in the vicinity of a public airport." Pursuant to this new legislation the Arizona Department of Real Estate has requested that all public airports provide the department with the following data: (1) A map or chart showing the traffic pattern airspace, and (2) an aircraft noise contour map or chart, if available, showing nearby property that experiences a day-night average sound level of 60 decibels or higher.

DNL is defined as the average A-weighted sound level as measured in decibels (dB), during a 24-hour period; a 10 dB penalty is applied to noise events occurring at night (10:00 p.m. to 7:00 a.m.). DNL is a summation metric which allows objective analysis and can describe noise exposure comprehensively over a large area.

Since noise decreases at a consistent rate in all directions from a source, points of equal DNL noise levels are routinely indicated by means of a contour line. The various contour lines are then superimposed on a map of the airport and its environs. It is important to recognize that a line drawn on a map does not imply that a particular noise condition exists on one side of the line and not on the other. DNL calculations do not precisely define noise impacts. Nevertheless, DNL contours can be used to: (1) highlight existing or potential incompatibilities between an airport and any surrounding development; (2) assess relative exposure levels; (3) assist in preparation of airport environs land use plans; and (4) provide guidance in the development of land use control devices, such as zoning ordinances, subdivision regulations, and building codes.

The noise contours for Ajo Municipal Airport were developed from the Integrated Noise Model, Version 5.2. The Integrated Noise Model (INM) was developed by the Transportation Systems Center of the U.S. Department of Transportation at Cambridge, Massachusetts, and has been specified by the FAA as one of two models acceptable for federally funded noise analysis.

The INM is a computer model which accounts for each aircraft along flight tracks during an average 24-hour period. These flight tracks are coupled with separate tables contained in the data base of the INM which relate to noise, distances and engine thrust for each make and model of aircraft type selected.

Recorded numbers of aircraft operations for 1998 and forecasts of future aviation activity in 2020 were used as input to the noise model. Forecasts of future aviation activity at Ajo Municipal Airport were developed as part of the planning process.

Computer input files for the noise analysis assumed implementation of the recommended development of the airport as identified on the Airport Layout Plan. The input files contained operational data, runway utilization, aircraft flight tracks, and fleet mix as projected in the plan. For more detailed information on the aviation forecasts for Ajo Municipal Airport refer to **Chapter Two**, Aviation Demand Forecasts.

Basic assumptions used as input to the INM noise model are presented in **Table B1, Noise Contour Input Data**.

Results of Noise Analysis

The aircraft noise contours generated from aviation forecasts for Ajo Municipal Airport are illustrated on **Exhibit B1, 1998 Aircraft Noise Exposure** and **Exhibit B2, 2020 Aircraft Noise Exposure.**

For the year 1998, the 65 DNL noise contour for Runway 12-30 extends approximately 10 feet northwest of the existing Runway 12 end, and falls approximately 23 feet short of the runway threshold on the Runway 30 end of the runway. By the year 2020, Runway 12-30's 65 DNL noise contour would be expected to extend approximately 15 feet northwest from the Runway 12 end, and approximately 45 feet southeast from the Runway 30 end. Meanwhile, for the year 2020, the reactivated crosswind Runway 5-23's 65 DNL noise contour would be expected to extend approximately 2 feet northeast from the Runway 5 end while falling approximately 12 feet short of the threshold for the Runway 23 end.

Table B1
Ajo Municipal Airport - Noise Contour Input Data

Percentage of Runway Usage					
Existing - 1998 (1,500 annual operations)		Future - 2020 (4,675 annual operations)			
Runway 12	Runway 30	Runway 12	Runway 30	Runway 5	Runway 23
30%	70%	20%	50%	10%	20%

Percent Day/Night Split of Total Operations (Both Runways Combined)			
Existing - 1998		Future - 2020	
Day	Night	Day	Night
95%	5%	90%	10%

Note: Operations for 1998 are based on estimates from Ajo Municipal Airport Manager. Year 2020 operations are from forecasts developed by Coffman Associates, Inc.

Based on 1998 operational levels, the 65 DNL and above noise contour encompassed less than 0.01 square miles; based on the 2020 year forecasts, the combined area for both runways for the 65 DNL and above contour would be expected to encompass less than 0.05 square miles. **Table B2, Area of Noise Contour,** reports the estimated size of each contour for the years 1998 and 2020. Due to the limited number of operations and the smaller size of aircraft that do now and in the future will use existing Runway 12-30 and the proposed reactivated Runway 5-23, the contours associated with these two runways do not extend more than 50 feet beyond each individual runway end.

Furthermore, examination of the two noise exposure exhibits reveals that the 60 DNL noise contour does not extend outside the Airport boundary, and, therefore, should not effect any existing or future land uses which may be covered by ARS §28-8486.

TABLE B2
Area of Noise Contours
Ajo Municipal Airport

	Noise Contour Area (in square miles)				
Year	55 DNL	60 DNL	65 DNL	70 DNL	75 DNL
1998	0.07	0.02	<0.01	<0.01	N/A
2020	0.27	0.11	0.03	<0.01	<0.01

Note: Noise Contour Area for year 1998 is for Runway 12-30 only, and Noise Contour Area for year 2020 equals the combined area for Runways 12-30 and 5-23.

COMPATIBLE LAND USE

Aircraft noise contours can be used as a guide to determine potential incompatible land uses in the vicinity of airports. To identify noise sensitive land uses potentially impacted by aircraft noise, the noise contours are overlaid on current and future land use maps for the airport and vicinity.

Federal Aviation Regulation (FAR) Part 150 recommends guidelines for planning land use compatibility within various levels of aircraft noise exposure (**Exhibit B3, F.A.R. Part 150, Land Use Compatibility Guidelines**). As the name indicates, these are guidelines only; *FAR Part 150* explicitly states that determinations of noise compatibility and regulation of land use are purely local responsibilities.

These guidelines indicate that mobile home parks, outdoor music shells and amphitheaters are incompatible within areas affected by noise levels above 65 DNL. The federal guidelines note, however, that where local communities determine that these uses are permissible, sound attenuation measures should be used. Several other uses, including hospitals, nursing homes, churches, auditoriums, livestock breeding, amusement parks, resorts, and camps, are considered incompatible at levels above 75 DNL.

Experience has shown that new residential development should be prohibited in areas subject to noise exceeding 65 DNL, unless local conditions indicate that soundproofed residences would not be adversely impacted by noise. The most obvious condition would be the presence of high background noise levels which are often found in high-density urban areas.

96MP10-B1-5/7/1999

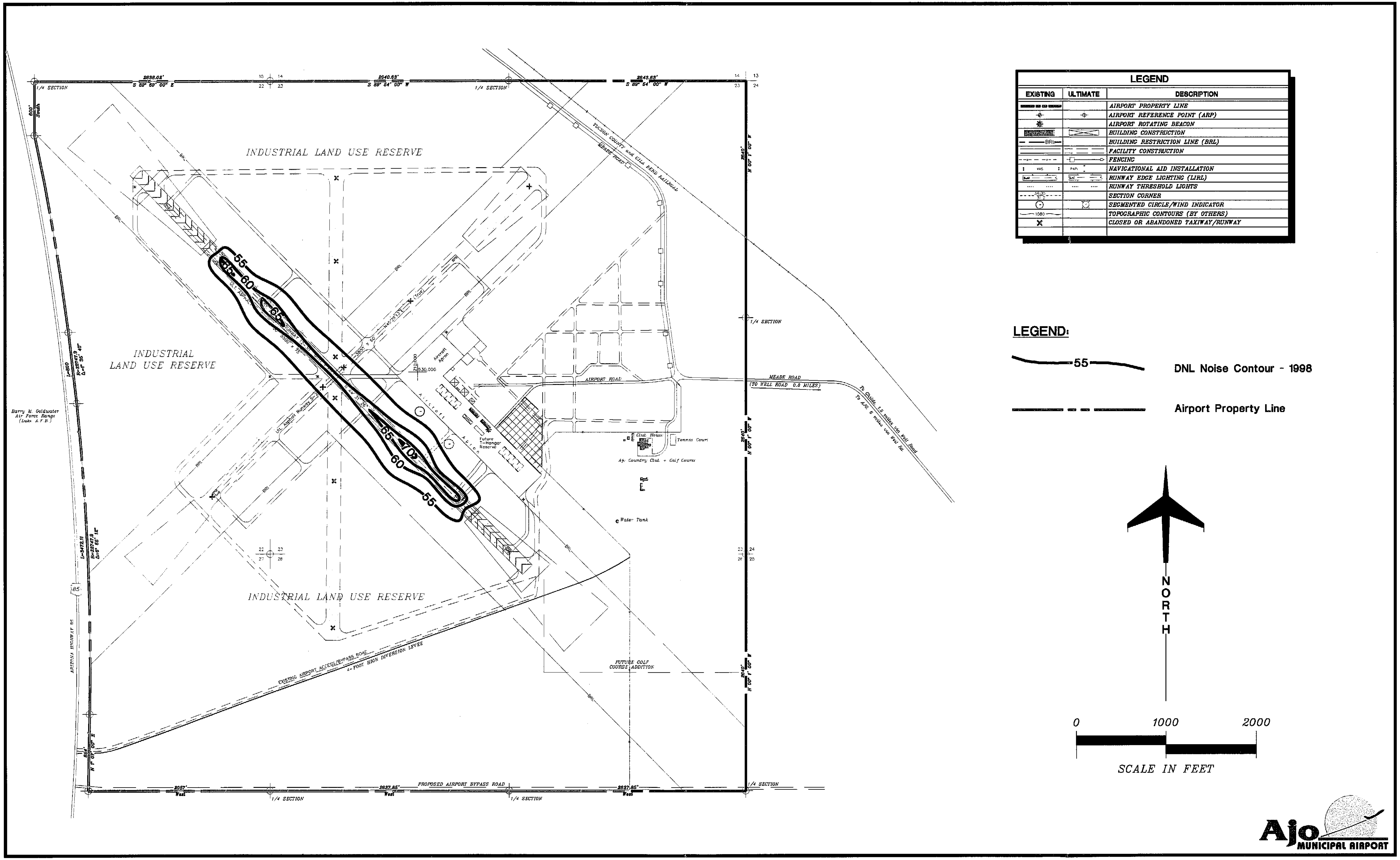

Exhibit B1
1998 AIRCRAFT NOISE EXPOSURE

96MP10-B2-5/7/1999

LEGEND		
EXISTING	ULTIMATE	DESCRIPTION
		AIRPORT PROPERTY LINE
		AIRPORT REFERENCE POINT (ARP)
		AIRPORT ROTATING BEACON
		BUILDING CONSTRUCTION
BRL		BUILDING RESTRICTION LINE (BRL)
		FACILITY CONSTRUCTION
		FENCING
VAS	PAPI	NAVIGATIONAL AID INSTALLATION
		RUNWAY EDGE LIGHTING (LIRL)
		RUNWAY THRESHOLD LIGHTS
34|16		SECTION CORNER
		SEGMENTED CIRCLE/WIND INDICATOR
1080		TOPOGRAPHIC CONTOURS (BY OTHERS)
		CLOSED OR ABANDONED TAXIWAY/RUNWAY

LEGEND:

55 — DNL Noise Contour - 2020

Airport Property Line

INDUSTRIAL LAND USE RESERVE

INDUSTRIAL LAND USE RESERVE

INDUSTRIAL LAND USE RESERVE

1/4 SECTION

2638.02' S 89° 59' 00" E

2640.63' S 89° 54' 00" W

2640.63' S 89° 54' 00" W

660' SHOULD

BRL

TUCSON COUNTY and GILA BEND RAILROAD

EASTERN ROAD

AIRPORT ROAD

MEADE ROAD (TO WELL ROAD 0.8 MILES)

To DUREE 1.5 miles via Well Road

To AJO 6 miles via Well Road

Aircraft Apron

Future T-Hangar Reserve

Club House

Tennis Court

Ajo Country Club - Golf Course

Water Tank

Barry M. Goldwater Air Force Range (Luke A.F.B.)

L=1800 R=5879.6 Δ=17° 55' 10"

L=1478.31 R=5879.6 Δ=14° 24' 12"

ARIZONA HIGHWAY 85

85

N 1° 01' 00" E 864'

EXISTING AIRPORT ACCESS/BYPASS ROAD

4'-FOOT HIGH DIVERSION LEVEE

FUTURE GOLF COURSE ADDITION

PROPOSED AIRPORT BYPASS ROAD

2657.85' West

2657.85' West

2657.85' West

1/4 SECTION

1/4 SECTION

1/4 SECTION

1/4 SECTION

N 0° 01' 00" E 2640'

N 0° 01' 00" E 2640'

N 0° 01' 00" E 2640'

22 23 27 26

23 24 26 25

15 14 22 23

14 13 23 24

N

NORTH

0 1000 2000

SCALE IN FEET

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Exhibit B2
2020 AIRCRAFT NOISE EXPOSURE

LAND USE	Community Noise Equivalent Level (CNEL) in Decibels					
	Below 65	65-70	70-75	75-80	80-85	Over 85
RESIDENTIAL						
Residential, other than mobile homes and transient lodgings	Y	N[1]	N[1]	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N[1]	N[1]	N[1]	N	N
PUBLIC USE						
Schools	Y	N[1]	N[1]	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Government services	Y	Y	25	30	N	N
Transportation	Y	Y	Y[2]	Y[3]	Y[4]	Y[4]
Parking	Y	Y	Y[2]	Y[3]	Y[4]	N
COMMERCIAL USE						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail-building materials, hardware and farm equipment	Y	Y	Y[2]	Y[3]	Y[4]	N
Retail trade-general	Y	Y	25	30	N	N
Utilities	Y	Y	Y[2]	Y[3]	Y[4]	N
Communication	Y	Y	25	30	N	N
MANUFACTURING AND PRODUCTION						
Manufacturing, general	Y	Y	Y[2]	Y[3]	Y[4]	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y[6]	Y[7]	Y[8]	Y[8]	Y[8]
Livestock farming and breeding	Y	Y[6]	Y[7]	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
RECREATIONAL						
Outdoor sports arenas and spectator sports	Y	Y[5]	Y[5]	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N

The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable under Federal, State, or local law. The responsbility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

See other side for notes and key to table.

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Exhibit B3
F.A.R. PART 150 LAND USE
COMPATIBILITY GUIDELINES

KEY

Y (Yes)	Land Use and related structures compatible without restrictions.
N (No)	Land Use and related structures are not compatible and should be prohibited.
NLR	Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30, 35	Land Use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structure.

NOTES

1 Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR)of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.

2 Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.

3 Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.

4 Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.

5 Land use compatible provided special sound reinforcement systems are installed.

6 Residential buildings require a NLR of 25.

7 Residential buildings require a NLR of 30.

8 Residential buildings not permitted.

Source: ***F.A.R. Part 150,*** *Appendix A, Table 1.*

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Exhibit B3 (Continued)
F.A.R. PART 150 LAND USE
COMPATIBILITY GUIDELINES

Where existing residential uses occur, further expansion should be discouraged. Measures to mitigate noise impacts should be taken if further residential development cannot be prevented. In some communities where there is a severe shortage of developable land, local governments often are compelled to permit more residential development within the 65 DNL contour. In such cases, the FAA strongly recommends soundproofing. A requirement for noise easements as a condition of development approval might also be desirable.

Based on the results of the noise modeling efforts, the 60 or 65 DNL noise contour for 1998 and 2020 would not extend over residential structures or noise-sensitive land use and would, therefore, not result in a significant impact to neighboring land uses..

SOCIAL IMPACTS

Social impacts known to result from airport improvement projects are often associated with the relocation of residences or businesses or other community disruptions. Development of the proposed improvements does not require any future property acquisitions, and is, therefore, not expected to result in the relocation or removal of any residence or business.

The proposed development is not anticipated to divide or disrupt an established community, interfere with orderly planned development, or create a short-term, appreciable change in employment.

INDUCED SOCIOECONOMIC IMPACTS

Induced socioeconomic impacts address those secondary impacts to surrounding communities resulting from the proposed development, including shifts in patterns of population movement and growth, public service demands, and changes in business and economic activity to the extent influenced by the airport development. According to *FAA Order 5050.4A*, "Induced impacts will normally not be significant except where there are also significant impacts in other categories, especially noise, land use or direct social impacts."

Significant shifts in patterns of population movement or growth or public service demands are not anticipated as a result of the proposed development. It is expected, however, that the proposed new airport development would potentially induce positive socioeconomic impacts for the community over a period of years. The Airport, with expanded facilities and services would be expected to attract additional users. It is expected to encourage tourism, industry, and trade and to enhance the

future growth and expansion of the community's economic base. Future socioeconomic impacts resulting from the proposed development would be expected to be primarily positive in nature.

AIR QUALITY

The federal government has established a set of health-based ambient air quality standards (NAAQS) for the following six pollutants: carbon monoxide (CO), nitrogen dioxide (NO_x), sulphur dioxide (SO_x), ozone, lead, and PM10 (particulate matter of 10 microns or smaller). The EPA is presently developing criteria for PM2.5 (particulate matter of 2.5 microns or smaller).There are two air quality nonattainment areas located in the Ajo vicinity, meaning that they are currently listed as not meeting federal health standards for air pollution levels, including particulates. The Airport is located within the Ajo Sulfur Dioxide (SO_x) Nonattainment Area and outside of the Ajo PM-10 Nonattainment Area. Descriptions of each these air quality areas follow:

Ajo PM-10 Nonattainment Area

Emission Sources: Phelps Dodge Corporation: 1,900 acres of dam tailings from historic copper smelter operations.

Status: Ajo PM-10 State Implementation Plan was submitted to EPA by the Arizona Department of Environmental Quality (ADEQ) on November 15, 1991. As a result of covering the 1,900 of dam tailings with 2"to 4" diameter crushed rock in September 1991, there have been no exceedences of the 24-hour and annual PM10 standard from 1988 through 1996.

Ajo Sulfur Dioxide (SO_x) Nonattainment Area

Emission Sources: Dismantled copper smelter. Monitoring was discontinued in 1986.

Status: A State Implementation Plan showing Reasonable Further progress and requesting Redesignation to Attainment is being prepared by the ADEQ.

Given the cause of the nonattainment and the ongoing remediation efforts, the existing and forecasted use of the Airport is not expected to affect timely attainment of the NAAQS standards in the area, per SIP.

According to FAA Order 5050.4A and the handbook "Air Quality Procedures for Civilian Airports and Air Force Bases" Report No. FAA-EE-97-03, if the Proposed Action is in a state which does not have applicable indirect source review (ISR) requirements, as with Arizona, then projected airport activity levels are examined. According to the handbook, air quality analysis is not required for Ajo Municipal Airport since the airport has less than 180,000 annual general aviation operations forecasted during the planning period.

The Arizona Department of Environmental Quality (ADEQ), was contacted to determine the potential impacts the proposed development would have on air quality. Although no response was received, they typically are concerned with any potential release (i.e., a spill, leak, emission, discharge, escape, leach or disposal) of a regulated substance into the air, groundwater, surface water or subsurface soils. ADEQ should be contacted again as part of any NEPA required documentation, such as an EA or an EIS to confirm their response.

During construction of proposed development items, steps should be taken to minimize the amount of particulate matter (dust) generated, including incidental emissions caused by strong winds, as well as tracking of dirt off the construction sites by machinery and trucks. The generation of fugitive dust as a result of construction activities is anticipated due to the movement of heavy construction equipment and the exposure and disturbance of surface soils. This impact is expected to be both temporary and localized. In addition, portable sources of air pollution, such as rock, sand, gravel and asphaltic concrete plants are required to be permitted by ADEQ prior to commencing operations.

The governor of the State of Arizona must certify, termed air quality certification, that there is reasonable assurance that any and all proposed airport development is located, designed, constructed, and operated in compliance with the applicable air quality standards.

WATER QUALITY

Water quality concerns, related to airport expansion most often relate to domestic sewage disposal, increased surface runoff and soil erosion, and the storage and handling of fuel, petroleum, solvents, etc. As previously discussed, ADEQ was contacted but no response was received. Typically ADEQ notes that their concerns focus on any potential release (i.e., a spill, leak, emission, discharge, escape, leach or disposal) of a regulated substance into the air, groundwater, surface water or subsurface soils.

Currently, sanitary sewage disposal is not provided at the Airport. Given the type of proposed development, a commercial-type sanitary septic system with a capacity to service the combined airport facilities should be considered.

As growth in aviation activity occurs, fuel storage facilities will become necessary. Fuel storage facilities must be designed, constructed and maintained in compliance with Federal, State and local regulations, and must be registered with ADEQ. These regulations include standards for underground storage tank construction materials, the installation of leak or spill detection devices, and regulations for stormwater discharge.

In June 1995, the U.S. Army Corps of Engineers (USACE) contracted with Morrison Knudsen Corporation (MK) of Irvine, California for removal and disposal of four underground fuel storage tanks (USTs) reportedly located at the former Ajo Army Airfield (now Ajo Municipal Airport). This contract also called for the removal of "contaminated soils." According to the MK report, entitled

Underground Storage Tank Closure Report, Ajo Army Airfield, Ajo, Arizona (January 1996), during their investigation no USTs were found, "although evidence of their prior removal was present at the site. Concrete slabs and piping typical of fueling facilities were found and removed. Soil samples were collected to confirm that the site did not pose a threat to human health or the environment." Concluding their report, MK stated "The site was restored to the satisfaction of the USACE" and "based on the site location and the analytical results, no further action is recommended at this site."

Further consideration must be given as to how the Airport would handle waste from any aircraft wash racks, deicing facilities, or maintenance facilities. Of crucial concern would be spills or leaks of substances that could filter through the soils and contaminate groundwater resources.

Construction of the proposed improvements will result in an increase in impermeable surfaces and a resulting increase in surface runoff from both landside and airside facilities. Stormwater flowing over impermeable surfaces may pick up petroleum product residues and, if not controlled, transport them off site. The proposed development might result in short-term impacts on water quality, particularly suspended sediments, during and shortly after precipitation events during the construction phase. Recommendations established in FAA Advisory Circular 150/5370-10 *Standards for Specifying Construction of Airports, Item P-156, Temporary Air and Water Pollution, Soil Erosion and Siltation Control* should be incorporated in project design specifications to mitigate potential impacts. These standards include temporary measures to control water pollution, soil erosion, and siltation through the use of fiber mats, gravel, mulches, slope drains, and other erosion control methods.

In accordance with Section 402(p) of the *Clean Water Act*, as added by Section 405 of the *Water Quality Act of 1987*, a *National Pollution Discharge Elimination System* (NPDES) General Permit is required from the Environmental Protection Agency. NPDES requirements apply to industrial facilities, including airports and all construction projects that disturb five or more acres of land.

With regard to construction activities, Pima County and all applicable contractors will need to comply with the requirements and procedures of the NPDES General Permit, including the preparation of a *Notice of Intent* and a *Stormwater Pollution Prevention Plan*, prior to the initiation of project construction activities.

The construction program, as well as specific characteristics of project design, should incorporate *Best Management Practices* (BMPs) to reduce erosion, minimize sedimentation, control non-stormwater discharges, and protect the quality of surface water features potentially affected. BMPs are defined as nonstructural and structural practices that provide the most efficient and practical means of reducing or preventing pollution of stormwater. The selection of these practices at Ajo Municipal Airport should be based on the site's characteristics and focus on those categories of erosion factors within the contractor's control, including: (1) construction scheduling, (2) limiting exposed areas, (3) runoff velocity reduction, (4) sediment trapping, and (5) good housekeeping practices. Inspections of the construction site and associated reporting may be required.

As with ADEQ, the Department of the Army, Corps of Engineers, was contacted, however, no response was received. On similar projects in the past they have expressed the following concern: That construction activities associated with airport development may require a Department of the Army permit issued under Section 404 of the Clean Water Act, noting that a 404 permit would be required for the discharge of dredges or fill material into the waters of the United States, including adjacent wetlands.

As with air quality, the governor of the State of Arizona must certify, termed water quality certification, that there is reasonable assurance that any and all proposed airport development is located, designed, constructed, and operated in compliance with the applicable water quality standards.

DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(F) LANDS

Paragraph 47e, *FAA Order 5050.4A* provides the following.

> *(7)(a) "Section 4(f) provides that the Secretary shall not approve any program or project which requires the use of any publicly-owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state or local significance, or any land from an historic site of national, state or local significance as determined by the officials having jurisdiction thereof unless there is no feasible and prudent alternative to the use of such land and such program includes all possible planning to minimize harm."*
>
> *(7)(b) "...When there is no physical taking but there is the possibility of use of or adverse impacts to Section 4(f) land, the FAA must determine if the activity associated with the proposal conflicts with or is compatible with the normal activity associated with this land. The proposed action is compatible if it would not affect the normal activity or aesthetic value of a public park, recreation area, refuge, or historic site. When so construed, the action would not constitute use and would not, therefore, invoke Section 4(f) of the DOT Act."*

The nearest Section 4(f) land is the Cabeza Prieta National Wildlife Refuge, located approximately 3.5 miles west of Ajo Municipal Airport. Because the proposed airport expansion does not require additional land acquisition and the year 2020 noise contours will not extend off of airport property, the recommended development is not anticipated to impact any Section 4(f) properties, including the Cabeza Prieta National Wildlife Refuge, either directly or indirectly.

HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL AND CULTURAL RESOURCES

The Arizona State Historic Preservation Officer (SHPO) was contacted regarding the potential presence of cultural resources within the area of the proposed development. In their response dated January 5, 1999, they stated "Our records check does not indicate that the area was surveyed prior to construction or that any archaeological sites or other cultural resources have been identified on the airport property; however, significant cultural resources have been recorded during surveys in connection with other projects in the area. This office generally recommends that a survey be performed by a qualified cultural resource specialist prior to any new ground-disturbing activity; in this instance, because the property is owned by Pima County, the specialist must be permitted by the Arizona State Museum, pusuant to A.R.S. § 41-841."

Furthermore, they recommend that prior to any ground-disturbing activity at the Airport, other agencies or entities should be contacted, including Pima County Cultural Resources, Luke Air Force Base, and the Tohono O'odham Nation.

A survey of the site should be conducted to determine whether any significant resources are present, and whether any mitigation measures are necessary prior to the implementation of the proposed development. Should archaeologic resources be encountered during any preconstruction or construction activities, work should cease in the area of the discovery and the SHPO be notified immediately, pursuant to 36 CFR 800.11.

BIOTIC COMMUNITIES AND THREATENED AND ENDANGERED SPECIES OF FLORA AND FAUNA

As part of this evaluation, the U.S. Department of the Interior, Fish and Wildlife Service (USFWS) and the Arizona Game and Fish Department (AG&F) were contacted to request information regarding potential impacts to threatened or endangered species or species of special concern.

Though no response was received from the USFWS regarding potential impacts to threatened or endangered species or species of special concern, a comparable project located in Northeastern Pima County did receive a response to a similar inquiry. In a letter dated December 23, 1998 they enclosed a list of protected species in Pima County which they thought might be helpful. A total of 18 species of flora and fauna shown as "listed, proposed or candidate species" are cited for Pima County. The letter stresses that the information contained lists those species "which may occur in your project area (Pima County)." They further recommend that a site-specific survey "may be needed to verify the presence or absence of a species or its habitat as required for the evaluation of proposed project-related impacts."

The AG&F responded in a letter dated January 8, 1999. According to the letter, "current records" of the AG&F Heritage Data Management System showed that "special status species have been documented as occuring in the project vicinity." AG&F supplied the following description:

Common Name	Scientific Name	Status
Harris' Hawk	*Parabueto unicinctus*	S

Status Definitions

S - Sensitive. Species classified as sensitive by the regional Forester when occuring on lands managed by the U.S.D.A. Forest service.

AG&F further stated that " The Department notes that the proposed project area has been previously disturbed by development of the airport and a country club. For that reason, we do not anticipate any significant adverse impacts to the special status species listed above, or other wildlife species, resulting from the proposed development."

A biological evaluation was completed at the Airport on October 9, 1997. This evaluation was conducted in order to provide biological resources information needed to complete a Notice Of Intent (NOI) form for Multi-Sector General Permits (MSGP) for storm water discharges at Ajo Municipal Airport. The evaluation determined that none of the then identified 17 species of federally listed threatened, endangered or candidate species for Pima County were known to occur in proximity to the facility, nor was any storm water discharges from the Airport expected to adversely affect any federally listed species occurring in Pima County. A copy of this evaluation entitled *Technical Memorandum, RE: Biological Evaluation for Ajo Municipal Airport* by WestLand Resources, Inc., dated October 22, 1997, is provided at the end of this appendix and summarizes the results of the biological evaluation. No significant impacts to protected species are expected to occur as a result of the proposed development program.

COASTAL MANAGEMENT PROGRAM AND COASTAL BARRIERS

The proposed development of Ajo Municipal Airport is not located within the jurisdiction of a State Coastal Management Program. The Coastal Zone Barrier resources system consists of undeveloped coastal barriers along the Atlantic and Gulf Coasts. These resources are well outside of the sphere of influence of Ajo Municipal Airport and its vicinity, and do not apply to the proposed development.

WILD AND SCENIC RIVERS

According to the National Parks Service's Wild and Scenic Rivers List (www.nps.gov), the proposed development of Ajo Municipal Airport is not located within the vicinity of a designated wild and

scenic river. No impacts to wild and scenic rivers are anticipated as a result of the proposed Airport development.

WETLANDS

Prior to any development activities, Pima County should request a jurisdictional delineation from the U.S. Army Corps of Engineers for the development area. This delineation would identify any waters of the U.S., including wetlands and intermittent streams, under jurisdiction of this agency. If the proposed construction could directly or indirectly affect any waters of the U.S., the project might require a U.S. Army Corps of Engineers permit per *Section 404* of the *Clean Water Act.*

FLOODPLAINS

As part of the evaluation process, the Pima County Department of Transportation and Flood Control District provided copies of the Flood Insurance Rate Map (FIRM) for the Airport area. According to Community-Panel Number 040073 0675 B, dated February 15, 1983, Ajo Municipal Airport is not rated because its is surrounded by U.S. Government Property which is controlled by Luke Air Force Base. Government properties are not included on Flood Insurance Rate Maps. It is recommended that the Flood Control District review surface water management for the airport property prior to any construction activities in this area.

FARMLAND

The following comments were received from the United States Department of Agriculture, in their letter dated January 25, 1999:

"1- The Ajo Municipal Airport plan, if implemented as planned, is exempt from the requirements of the Farmland Protection Policy Act (FPPA) - as revised in 1994, that excludes land which is already in or is committed to urban development, currently used as water storage, or land that is not prime or unique farmland."

"2- We do not see any immediate concerns or impacts that would directly affect wetland areas associated with agricultural activities."

ENERGY SUPPLY AND NATURAL RESOURCES

No concern regarding existing energy production facilities or known energy resource supplies was expressed by the agencies for this proposed development. A slight increase in energy demand will likely occur as a result of the proposed project. Additional electricity will be needed for the proposed runway and taxiway extensions, runway reactivation and construction, new navigation lighting aids, the general aviation terminal facilities, hangars and parking areas. In addition to this electric demand, expenditures of manpower, fuel, electricity, chemicals, water and other forms of energy will be necessary to construct the improvements and to provide for maintenance and operation of the facilities.

LIGHT EMISSIONS

The proposed lighting improvements for the 20-year development plan include the installation of additional Medium Intensity Runway Lighting (MIRL) on the proposed runway extension, new Medium Intensity Taxiway Lighting (MITL) on both the existing and proposed taxiways, a lighted wind cone/segmented circle, replacement of VASI-2s with PAPI-2s on Runway 12-30, and the installation of MIRLs, PAPI-2s and runway threshold lights on Runway 5-23. It is further anticipated that outdoor lighting would be installed within the automobile parking areas, aircraft parking apron and surrounding all terminal and FBO buildings and hangars.

Because of the distance from the airfield to light-sensitive land uses, impacts associated with any new light emissions are not expected to be significant.

SOLID WASTE

Slight increases in the generation of solid waste are anticipated as a result of the proposed development and overall growth in aviation activity. Because landfills can attract birds for feeding, the location of landfills near airports is not desired.

According to the Arizona Department of Environmental Quality Solid Waste Section Directories of Active, Inactive, and Closed Solid Waste Facilities, dated May, 1998, the only existing facility is the Ajo Municipal Solid Waste Landfill. The landfill is located approximately 2.5 nautical miles southeast of the Airport, and 1.4 miles north of State Highway 85 adjacent to Ajo Well Road, which connects Ajo to Childs. The recommended separation distance between the Airport and any such wildlife attractant is 10,000 feet (1.9 miles) for the type of aircraft expected to operate at the Airport in the future. The landfill is outside of this area of concern. Implementation of the proposed projects

are not expected to result in any significant increases in the generation of solid waste. No significant impacts to the capacity of solid facilities are expected as a result of this project.

CONSTRUCTION IMPACTS

Construction activities have the potential to create temporary environmental impacts at an airport. These impacts primarily relate to noise resulting from heavy construction equipment, fugitive dust emissions resulting from construction activities, and potential impacts on water quality from runoff and soil erosion from exposed surfaces.

A temporary increase in particulate emissions and fugitive dust may result from construction activities. The use of temporary dirt access roads would increase the generation of particulates. Dust control measures, such as watering exposed soil areas, will need to be implemented to minimize this localized impact.

Any necessary clearing and grubbing of construction areas should be conducted in sections or sequenced to minimize the amount of exposed soil at any one time. All vehicular traffic should be restricted to the construction site and established roadways.

The provisions contained in *FAA Advisory Circular 150/5370-10, Standards for Specifying Construction of Airports, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control* will be incorporated into all project specifications. During construction, temporary dikes, basins, and ditches should be utilized to control soil erosion and sedimentation and prevent degradation of off-airport surface water quality. After construction is complete, slopes and denuded areas should be reseeded to aid in the vegetation process.

CONCLUSION

Based on the review of correspondence provided by various federal, state and local agencies, potential environmental issues and considerations anticipated as a result of the development and operation of Ajo Municipal Airport have been identified. These issues and considerations include the following:

- Air Quality - Status of nonattainment should be monitored.
- Historical/Cultural Resources - Phase I Survey should be conducted by qualified specialist(s) prior to any ground-disturbing activity.
- Wetlands - Request a jurisdictional delineation from the U.S. Army Corps of Engineers for the Airport development area.

- Floodplains - Ongoing coordination with Pima County Department of Transportation and Flood Control District.

As a result of the NEPA process, mitigation measures may be recommended to limit the potential impacts related to a number of these resources. Please note that as more specific information is gathered through a formal EA process, additional issues may arise.

Agency Response Letters

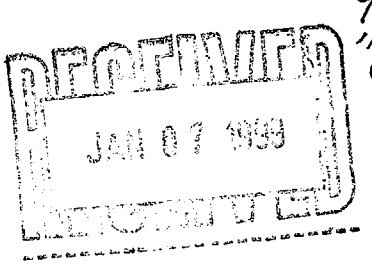
Arizona State Parks

"Managing and conserving natural, cultural, and recreational resources"

FILE
96MP10-07
"Comments"

January 5, 1999

Bill Hetland, Planner
Coffman Associates, Airport Consultants
11022 N. 28th Drive, Suite 240
Phoenix, Arizona 85029



RE: Ajo; Ajo Municipal Airport, Environmental Evaluation for Master Plan; Pima County, DOD-AF, and FAA

Dear Mr. Hetland,

Thank you for consulting our office regarding the preparation of an environmental evaluation for inclusion in the master plan. Your letter and project summary described the proposed airfield improvements and requested information regarding known environmental resources and sensitivities. Our records do not indicate that the area was surveyed prior to construction or that any archaeological sites or other cultural resources have been identified on the airport property; however, significant cultural resources have been recorded during surveys in connection with other projects in the area. This office generally recommends that a survey be performed by a qualified cultural resource specialist prior to any new ground-disturbing activity; in this instance, because the property is owned by Pima County, the specialist must be permitted by the Arizona State Museum, pursuant to A.R.S. § 41-841.

Your letter does not indicate whether you have consulted with Linda Mayro, Pima County Cultural Resources Manager. She may be able to provide you with additional information. We recommend that, as a part of this effort, you also consult with Luke Air Force Base and the Tohono O'odham Nation.

Your continued cooperation with this office in considering the impacts of this project on cultural resources is greatly appreciated. If you have any questions, please contact me at (602) 542-7137 or 542-4009.

Sincerely,

Carol Heathington
Compliance Specialist
State Historic Preservation Office

cc: Linda Mayro, Pima County Cultural Resources Manager
David White, Col., USAF, RMO
Peter Steere, Manager, Cultural Program, Tohono O'odham Nation
David Kessler, Environmental Protection Specialist, FAA

1300 West Washington
Phoenix, Arizona 85007

Tel & TTY 602-542-4174
1-800-285-3703
from (520) area code
http://www.pr.state.az.us

General Fax:
602-542-4180

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602-542-4188

THE STATE OF ARIZONA

GAME & FISH DEPARTMENT

2221 West Greenway Road, Phoenix, Arizona 85023-4399 (602) 942-3000
www.gf.state.az.us

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Director
Duane L. Shroufe

Deputy Director
Thomas W. Spalding

Yuma Office, 9140 E County 10½ Street, Yuma, AZ 85365-3596 (520) 342-0091

January 8, 1999

Mr. Bill Hetland
Coffman Associates
11022 N. 28th Drive
Suite 240
Phoenix, AZ 85029

Re: Airport Master Plan and Associated Development, Ajo Municipal Airport, Pima County

Dear Mr. Hetland:

The Arizona Game and Fish Department (Department) has reviewed your letter dated December 4, 1998 requesting comments related to the preparation of the above-referenced airport master plan. The following comments are provided for your consideration.

The Department's Heritage Data Management System has been accessed and current records show that the special status species listed below has been documented as occurring in the project vicinity.

COMMON NAME	SCIENTIFIC NAME	STATUS
Harris' hawk	Parabuteo unicinctus	**S**

STATUS DEFINITIONS

S - Sensitive. Species classified as "**sensitive**" by the Regional Forester when occurring on lands managed by the U.S.D.A. Forest Service.

The Department notes that the proposed project area has been previously disturbed by development of the airport and a country club. For that reason, we do not anticipate any significant adverse impacts to the special status species listed above, or other wildlife species, resulting from the proposed development.

Thank you for the opportunity to review and comment on this proposed project. If you have any questions, please contact me at 520-342-0091.

Sincerely,

Russell K Engel

Russell K. Engel
Habitat Program Manager
Region IV, Yuma

RKE:rke

cc: Larry Voyles, Regional Supervisor, Region IV
John Kennedy, Proj. Eval. Program Supervisor, Habitat Branch

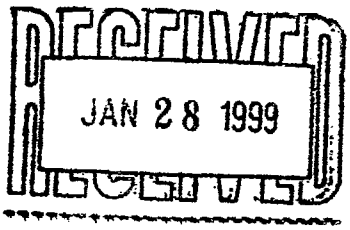
AGFD# 12-07-98-10

United States Department of Agriculture

Natural Resources Conservation Service

3003 N. Central Ave.
Suite 800
Phoenix, AZ
85012-2945

January 25, 1999



Mr. Bill Hetland
Planner
Coffman Associates
11022 N. 28th Drive, Suite 240
Phoenix, Arizona 85029

Dear Mr. Hetland:

This response is in regards to your letter dated December 4, 1998 concerning the airport master plan in Ajo, Arizona.

The Natural Resources Conservation Service (NRCS) has general responsibility, nationwide, for implementing the Farmland Protection Policy Act (FPPA) and to review projects that may affect prime farmland and/or wetlands associated with agriculture. After reviewing the information provided, the following is noted:

1- The Ajo Municipal Airport plan, if implemented as planned, is exempt from the requirements of the FPPA - as revised in 1994, that excludes land which is already in or is committed to urban development, currently used as water storage, or land that is not prime or unique farmland.
2- We do not see any immediate concerns or impacts that would directly affect wetland areas associated with agricultural activities.

Should you have questions please feel free contact Jeff Schmidt, Community Assistance Coordinator at 602/280.8818. Thank you again for the chance to review the proposed project.

Sincerely,

MICHAEL SOMERVILLE
State Conservationist

cc:
Kristen Egen, District Conservationist, NRCS, Sells, Arizona
Jim Briggs, Assistant State Conservationist, NRCS, Phoenix, Arizona
Jeff Schmidt, Community Assistance Coordinator, NRCS, Phoenix, Arizona

FILE 96MP10-07

Jane Dee Hull
Governor

J. Dennis Wells
State Land
Commissioner

Arizona
State Land Department

1616 W. Adams Street Phoenix, AZ 85007 (602) 542-4621 www.land.state.az.us

December 30, 1998

Mr. Bill Hetland
Coffman and Associates
11022 N. 28th Drive, Suite 240
Phoenix, Arizona 85029

RE: Ajo Municipal Airport Master Plan

Dear Mr. Hetland:

There is no State Trust land involved in any of the proposed alternatives, nor is there State Trust land adjacent to the airport. We, therefore, have no knowledge of environmental issues in the area.

You should correct the address in your file to reflect J. Dennis Wells as State Land Commissioner, replacing M. J. Hassell.

Sincerely,

William Dowdle
Manager
Environmental & Trespass Section

WD/mcb

Technical Memorandum, RE: Biological Evaluation for Ajo Municipal Airport

October 22, 1997

TECHNICAL MEMORANDUM

TO: Ms. Becky Sayre Pearson

FROM: Scott Jay Bailey

CC:

Project File 97229-S-003

RE: **BIOLOGICAL EVALUATION FOR AJO MUNICIPAL AIRPORT**

This technical memorandum provides biological resources information needed to complete a Notice of Intent (NOI) form for Multi-Sector General Permits (MSGP) for storm water discharges at the Ajo Municipal airport. No species identified in Addendum H (60 FR 51278) or any other federally listed species in Pima County (see attached) are known to occur in proximity (as defined in Addendum H[1]) to the facility, nor are storm water discharges from the facility likely to adversely affect any federally listed species occurring in Pima County. The following sections summarize the results of a biological evaluation completed at the airport on 9 October 1997.

The Ajo Municipal Airport is located north of the town of Ajo in Sections 22 and 23, T11S, R6W (Figure 1). Pima County Department of Transportation and Flood Control District (1995) has completed a Storm Water Pollution Prevention Plan (SWPPP) for the facility[2]. The SWPPP identifies potential pollutants and Best Management Practices (BMPs), summarizes past leaks and spills, evaluates potential for future spills and leaks, and discusses on-site drainage patterns. Potential pollution sources at the facility include paint thinner, crankcase oil, and aviation fuel (in aircraft). No aircraft deicing fluids are used at the facility, no fuel storage tanks occur on-site, and no more than five gallons of any potential pollutant are stored at the facility. BMPs (processes, procedures, schedules of activities, prohibitions on practices, and other management practices that prevent or reduce the discharge of pollutants in storm water runoff) have been implemented at the facility. Surface storm water runoff occurs as sheet flow. No collector channels or other features that concentrate storm water have been constructed at the facility. Storm water flows from south to north across the facility, exiting primarily at the north end of the existing runway and two abandoned runways. Sheet flow appears to enter several small, unnamed channels that eventually discharge into Tenmile Wash, approximately one mile north of the facility.

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[1] A species is in proximity to a facility's storm water discharge when the species is 1) located in the path or immediate area through which or over which contaminated point source storm water flows from industrial activities to the point of discharge into the receiving water, 2) located in the immediate vicinity of, or nearby, the point of discharge into receiving waters, or 3) located in the area of a site where storm water BMPs are planned or are to be constructed (60 FR 51278).

[2] PCDOTFCD. 1995. Storm water pollution prevention plan for Ajo Municipal Airport (NPDES Requirement). Unpublished report. 4 pp.

The Ajo airport occurs within the Lower Colorado subdivision of the Sonoran desertscrub biotic community[3]. The facility has been in existence since the 1940s and there has been considerable human alteration of the grounds. Much of the area has been paved and many unpaved areas within the facility are bare ground devoid of vegetation. Common and conspicuous plant species on vegetated portions of the facility include mesquite (*Prosopis juliflora*), creosotebush (*Larrea tridentata*), white bur sage (*Ambrosia dumosa*), triangle-leaf bur sage (*A. deltoidea*), and cheese brush (*Hymenoclea salsola*). Vegetation is most dense and mesquite are most abundant at the ends of the runways, apparently due to increased storm water run off from the runways.

No federally listed threatened, endangered, or candidate species occurring in Pima County (see attached) were observed during a field visit to the facility, and given the available habitats within and adjacent to the facility, none are likely to occur. In addition, based on available habitats, no federally threatened, endangered, or candidate species are likely to occur in proximity (as defined in Addendum H) to storm water discharges from the facility. A very small amount of potential pollutants are stored at the facility, and established BMPs appear adequate to reduce or prevent discharge of pollutants from the facility. Therefore, it is extremely unlikely that storm water discharged from the facility would adversely impact any threatened, endangered, or candidate species occurring in Pima County.

[3] Brown, D.E. 1982. Biotic communities of the American Southwest — United States and Mexico. Desert Plants 4(1-4):1-342.